

REMARKS

Claims 1-4, 8, 10 and 11 are pending and rejected in this application. Claim 1 is amended hereby.

Responsive to the Examiners rejection of claims 1-4, 8, 10 and 11 under 35 U.S.C. § 103(a) as being unpatentable over WO94/11116 (Sundholm et al.) in view of U.S. Patent No. 5,993,913 (Rosenberger et al.), Applicant has amended claim 1 and submits that claims 1-4, 8, 10 and 11 are now in condition for allowance.

Sundholm et al. discloses a method and apparatus for coating paper (Figs. 1 and 2) including application nozzle 24 having air channels 25 disposed around slurry channel 26. Slurry is supplied to slurry channel 26, which is sprayed upon the paper, under pressure. Air from air channels 25 further break up the slurry reducing it into a fog. The amount of coating applied can be adjusted and the penetration of the coating optimized by adjusting flow rates and the angle at which the coating is directed toward the paper (page 4, line 29 through page 5, line 25). After the coating is applied to the paper, the paper is conveyed through doctor 32. Doctor blade 32 is pressed against the paper, which is backed by roll 33. Doctor 32 functions to meter or level the coating by brushing or removing some slurry (page 6, lines 16-27). The process gives a smoother surface to the paper than not using the combination of doctor 32 and spraying (page 7, lines 14-19).

Rosenberger et al. disclose a method and apparatus for spraying waterborne coatings under varying conditions (the Fig.) including a method of inline adjustment of waterborne coating compositions held in reservoir 1 to compensate for the relative humidity of the environment in spray zone 13. To compensate for measured humidity in spray zone 13 the apparatus alters the viscosity of the coating composition. The viscosity is altered by adding a viscosity altering

additive such as water. Humidity sensor 14 may be read manually or it may transmit an electrical signal that corresponds to the relative humidity. Relative humidity, as measured by humidity sensor 14, is the basis for selecting the amount of additive from reservoir 2 or 3 that is added to the composition held in reservoir 1 (column 3, line 13 through column 4 line 5). The spray device may include a conventional air atomizing spray device, an electrostatic air atomizing spray device or an electrostatic rotary atomizing device (column 5, lines 1-3). The proportionate flow rates of water and the coating composition are selected to provide a predetermined evaporation rate of water from the coating under environmental conditions in spray area 13 (column 7, lines 11-18).

In contrast, claim 1 as amended, recites in part:

said vapor supply line located substantially opposite from the direction of spray of said spray device, said vapor supply line directing a vapor toward the back of said spray device, said vapor supply line not connected to said spray device ...

(Emphasis added). Applicant submits that such an invention is neither taught, disclosed nor suggested by Sundholm et al., Rosenberger et al. or any of the other cited references, alone or in combination, and includes distinct advantages thereover.

Sundholm et al. discloses a method and apparatus for coating paper having an application nozzle with air channels disposed around a slurry channel. Rosenberger et al. disclose a method and apparatus for spraying waterborne coatings under varying conditions, including an air atomizing spray device that applies a coating composition that has its viscosity altered depending upon the humidity in the spray zone. On page 3 of the Office Action dated January 14, 2003, the Examiner indicated that these two references did not teach the limitation of directing vapor towards the back of the spray device. Now, at page 3 in the current Office Action, the Examiner has said that atomization may be performed by conventional air atomization, which the Examiner declares reads on supplying vapor to the back of the nozzle as air is a vapor. However, the

Examiner has restated the claim language to indicate that vapor is supplied to the back of the nozzle in order to make the point, which is not the language of claim 1, that a vapor supply line directs a vapor toward the back of a spray device. Nonetheless, Applicant has amended claim 1 to more clearly describe Applicant's invention by adding that the vapor supply line is not connected to the spray device. Therefore, Sundholm et al., Rosenberger et al. and any of the other cited references, alone or in combination, fail to disclose, teach or suggest a vapor supply line directing a vapor toward the back of a spray device, the vapor supply line not connected to the spray device, as recited in claim 1.

An advantage of Applicant's invention is that the housing reduces dispersion of the vapor. Another advantage of Applicant's invention is that the flow of vapor comes around the spray device from behind the spray device and toward the fiber web, thereby reducing turbulence in the application area. Accordingly, Applicant submits that claim 1 and claims 2-4, 8, 10 and 11 depending therefrom, are now in condition for allowance, which is hereby respectfully requested.

Responsive to the Examiner's rejection of claims 1-4, 8, 10 and 11 under 35 U.S.C. § 103(a) as being unpatentable over Sundholm et al. in view of U.S. Patent No. 4,396,651 (Behmel et al.), Applicant has amended claim 1 and submits that claims 1-4, 8, 10 and 11 are now in condition for allowance.

Behmel et al. disclose a process for spraying water-dilutable paint including two-component spray guns whereby the outlay of the spray nozzles guarantees a thorough blending of the two components to provide a uniform film formation. The ancillary nozzles are mounted in order that the droplets of the material atomized by the nozzles either covers the main paint stream and/or blends with the droplets of the main stream without melting or blending homogeneously therewith (column 2, lines 46-55). Along with the atomization of paint, a quantity of water is

atomized as adjusted by the humidity and/or spray room temperature, thereby creating a micro-climate. Additives are applied through ancillary nozzles directly and immediately to the surface of the paint droplets (column 3, lines 8-27).

In contrast, claim 1 as amended, recites in part:

said vapor supply line located substantially opposite from the direction of spray of said spray device, said vapor supply line directing a vapor toward the back of said spray device, said vapor supply line not connected to said spray device ...

(Emphasis added). Applicant submits that such an invention is neither taught, disclosed nor suggested by Sundholm et al., Behmel et al. or any of the other cited references, alone or in combination, and includes distinct advantages thereover.

Sundholm et al. discloses a method and apparatus for coating paper having an application nozzle with air channels disposed around a slurry channel. Behmel et al. disclose a process for spraying water-dilutable paint including ancillary nozzles are mounted in order that the droplets of the material atomized by spray nozzles either covers the main paint stream and/or blends with the droplets of the main stream without melting or blending homogeneously therewith. On page 5 of the Office Action dated January 14, 2003, the Examiner indicated that these two references did not teach the limitation of directing vapor towards the back of the spray device. Now, at page 5 of the current Office Action, the Examiner has said that pressurized air spraying guns may be used as the spray nozzle, which the Examiner declares reads on supplying vapor to the back of the nozzles, as air is a vapor. However, the Examiner has restated the claim language to indicate that vapor is supplied to the back of the nozzle in order to make the point, which is not the claim language, that a vapor supply line directs a vapor toward the back of a spray device. Nonetheless, Applicant has amended claim 1 to more clearly describe Applicant's invention by adding that the vapor supply line is not connected to the spray device. Therefore, Sundholm et al., Behmel et al.

and any of the other cited references, alone or in combination, fail to disclose, teach or suggest a vapor supply line directing a vapor toward the back of a spray device, the vapor supply line not connected to the spray device, as recited in claim 1.

An advantage of Applicant's invention is that the housing reduces dispersion of the vapor. Another advantage of Applicant's invention is that the flow of vapor comes around the spray device from behind the spray device and toward the fiber web, thereby reducing turbulence in the application area. Accordingly, Applicant submits that claim 1 and claims 2-4, 8, 10 and 11 depending therefrom, are now in condition for allowance, which is hereby respectfully requested.

For the foregoing reasons, Applicant submits that no combination of the cited references teaches, discloses or suggests the subject matter of the amended claims. The pending claims are therefore in condition for allowance, and Applicant respectfully requests withdrawal of all rejections and allowance of the claims.

In the event Applicant has overlooked the need for an extension of time, an additional extension of time, payment of fee, or additional payment of fee, Applicant hereby conditionally petitions therefor and authorizes that any charges be made to Deposit Account No. 20-0095, TAYLOR & AUST, P.C.

Should any question concerning any of the foregoing arise, the Examiner is invited to telephone the undersigned at (260) 897-3400.

Respectfully submitted,



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CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to:
Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450,
on: September 15, 2003.

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